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10/049,635	02/25/2002	Takayuki Matsui	100021-00073	1390

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EXAMINER

MACKOWEY, ANTHONY M

ART UNIT PAPER NUMBER

2623

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,635

Applicant(s)

MATSUI ET AL.

Examiner

Anthony Mackowey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/25/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 5 is/are rejected.
- 7) ☒ Claim(s) 2,3,6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/25/2002.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Specification

The disclosure is objected to because of the following informalities:

on page 13, line 16 and page 23, line 2, the definition storing table is incorrectly referenced "211" (Figure 2 identifies definition storing table as "209");

on page 13, line 17 and page 23, line 3, the character recognition unit is incorrectly referenced "209" (Figure 2, identifies character recognition unit as "210");
and

on page 13, line 18, the character recognition result storing unit is incorrectly referenced "210" (Figure 2 identifies character recognition result storing unit as "211").

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,459,797 to Sato in view of U.S. Patent 4,731,859 to Holter et al. (Holter).

As to claim 1, Sato discloses an apparatus (col. 3, line 60 to col. 4, line 19, The system disclosed by Sato includes a CPU controlling the system, data input circuit,

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memory, look-up table circuit, and a CCD array) for discriminating a document with a data information, said apparatus comprising:

image reading means for reading image data from a document prepared in an optional format (col. 6, line 62 to col. 7, line 12, Sato teaches the color printed matter is illuminated, an image is formed on the image sensor (CCD array), and the output of the image sensor is converted into a digital image signal.);

image data cutting out means for cutting out data corresponding to a designated specified portion of said document from said image data read by said image reading means (col. 11, lines 44-49, Sato teaches the character containing the variable density information can be extracted (cut out).); and

color constituent extracting means for analyzing color constituents of said image data cut out by said cutting out means (col. 11, lines 50-58).

Sato is silent with regard to setting a color separation parameter for a specific color constituent and to a color constituent separating means for producing said data information for said specific portion from said image data cut out based on said color separation parameter from said color constituent extracting means. However, Holter teaches setting a decision boundary (color separation parameter) between color constituent distributions in color space (col. 5, lines 15-60; Figure 4) and classifying pixels according to this parameter (col. 6, lines 7-11) (Examiner interprets such an identification and classification of colors as said data information.). Holter teaches this separation and classification in order to identify and process areas of a specific color in the image (col. 6, lines 33-39, Holter teaches analyzing pixels that are green.).

The teachings of Sato and Holter are combinable because they are both concerned with color image processing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include setting a color separation parameter for a specific color constituent and producing said data information as taught by Holter, in analyzing the color constituents as taught by Sato. One would have been motivated to do so because it would better identify and differentiate between color corresponding to the text characters (specific color constituent) and those corresponding to the patterns and background of the document taught by Sato.

As to claim 4, Sato's teaching of the components of the system, their relationship and function, clearly discloses the method performed by the system. With regard to the remainder of claim, arguments analogous to those presented above for claim 1 are applicable to claim 4.

As to claim 5, Sato further discloses the color constituent is analyzed with three primary colors of color (col. 7, lines 6-10; Sato teaches the image is analyzed in red, green and blue.).

Sato is silent with regard to selecting one of the three primary colors as a specific color constituent. However, Holter teaches selecting a specific color constituent (col. 6, lines 33-39, Holter teaches analyzing pixels that are green.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select one of the three primary colors as a specific color constituent as taught by Holter in the method taught by Sato because it would better discriminate between color corresponding to the text characters (specific color

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constituent) and those corresponding to the patterns and background of the document taught by Sato.

Sato is also silent with regard to the color separation parameter being determined based on density distributions of said three primary colors. However, Holter teaches a decision boundary (separation parameter) between two classes of the in color space (density distributions of primary colors) (col. 5, lines 15-60; Figure 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the separation parameter based on the distributions of the three primary colors. One would have been motivated to do so in order to optimally separate points in the color space which correspond to different colors classes (Holter, col. 5, lines 58-60) but may not be necessarily be significantly far apart in color space.

Allowable Subject Matter

Claim 2,3,6 and 7 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,625,313 to Morita et al. is cited for teaching a business form discrimination system and method, which includes cutting out a specific portion of the form and a format definition information file (discrimination dictionary).

U.S. Patent 6,697,165 to Wakai et al. is cited for teaching scanning a document, detecting the type of document, and identifying an area in which character recognition is to be performed.

U.S. Patent 6,269,358 to Hirata is cited for teaching a classification system using a color category.

U.S. Patent 5,454,050 to Nakabayashi et al. is cited for teaching clustering of color information and designating the color clusters as background or foreground.

U.S. Patent 6,011,595 to Henderson et al. is cited for teaching defining a color volume in a color space used to identify foreground and background color.

International Publication WO 97/41522 to Konsishi et al. is cited for teaching color-coding of areas of a document to discriminate data in the document.

U.S. Patent 5,579,407 to Murez is cited for teaching a classification of character information in a document according to the highlighted color of the information.

Japanese Patent JP403160470A to Suzuki is cited for teaching collating of a document based on the color feature of a specified pattern.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Mackowey whose telephone number is (703) 306-4086. The examiner can normally be reached on M-F 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AM
3/24/05


Jon Chang
Primary Examiner

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